

REMARKS

The above-identified application has been carefully reviewed in light of the Examiner's communication mailed September 25, 2003, which included a final rejection of claims 22, 24 to 31, 44 and 45. Applicant submits that the amendments and remarks included herein show the presently rejected claims to be allowable or, if necessary, in better condition for appeal. Therefore, applicant respectfully requests that this RESPONSE B be entered and considered on its merits.

Applicant gratefully acknowledges the Examiner's action in holding that claims 1 to 21 are allowed.

Independent claims 27 and 44 have been amended to make clear that the additive component is distributed substantially throughout the matrix material. Such amendments are consistent with the amendment previously made to claim 1, which has now been allowed. These amendments are fully supported by the present specification and do not raise new issues.

Claims 22 and 24 to 26 have been rejected under 35 U.S.C. 102(b) as being anticipated by Mitchell et al. Claims 27 to 31, 44 and 45 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Mitchell et al. Applicant traverses each of the rejections as it pertains to the presently rejected claims.

The present invention is directed to coolant additive compositions and methods of producing additive compositions for providing benefits to coolants.

In independent claim 22, coolant additive compositions are provided which comprise a sustained release component and an additive component. The additive component is effective to provide at least one benefit to a coolant when released into the coolant. The sustained release component is partially soluble in the coolant and is effective to reduce the rate of release of the additive component into the coolant relative to an identical composition

without sustained release component. Further, the sustained release component includes a portion which is soluble in the coolant and is effective, when released into the coolant, to provide at least one benefit to the coolant. For example, the soluble portion of the sustained release component is effective to provide a benefit, such as anticavitation, defoaming, descaling and the like advantageous properties, to the coolant after being released into the coolant. See page 14, lines 23 to 33 of the present specification. In effect, the sustained release component of claim 22 is effective to reduce the rate of release of the additive component into the coolant and, in addition, to provide at least one benefit to the coolant when the soluble portion of the sustained release component is released into the coolant. Independent claim 22 expressly recites this beneficial feature of the present invention.

In independent method claim 27, methods for producing an additive composition for providing a benefit to a coolant comprise the steps of combining an additive component with a matrix material to form a mixture; and forming one or more discrete units of the mixture. The additive component is distributed substantially throughout the matrix material and is effective to provide at least one benefit to the coolant when released into the coolant. The matrix material comprises a polymeric material. When one or more discrete units are contacted with a coolant, the matrix material is present in an amount effective to reduce the rate of release of the additive component into the coolant.

In independent method claim 31, methods of producing additive compositions for providing a benefit to the coolant comprise providing an additive composition and providing a coating material on the additive composition to form a coated additive composition. The coating material is partially coolant soluble and effective, when the coated additive composition is contacted with the coolant,

to reduce the rate of release of the additive composition into the coolant relative to identical additive compositions without the coating material. Further, the coating material includes a portion which is soluble in the coolant and is effective, when released into the coolant, to provide at least one benefit to the coolant. See the discussion above with regard to this advantageous feature, which is expressly recited in independent claim 31.

Independent claim 44 is directed to coolant additive compositions comprising an additive component effective to provide at least one benefit to a coolant when released into the coolant, and a sustained release component including both a coating and a matrix, with the additive component distributed substantially throughout the matrix material. The sustained release component is partially soluble in the coolant and is effective to reduce the rate of release of the additive component into the coolant relative to an identical composition without the sustained release component.

Mitchell et al discloses a controlled release coolant additive including a core containing a coolant additive composition and a coating material encapsulating the core. Mitchell et al discloses that when the coating material dissolves in the coolant, the dissolved coating contaminates or fouls the system which is being treated. Mitchell et al discloses that the coating material should not dissolve appreciably in the coolant to avoid contaminating or fouling the cooling system.

Mitchell et al does not disclose, teach or suggest the present invention. For example, Mitchell et al does not disclose, teach or even suggest a coolant additive composition comprising any matrix material and an additive component with the additive component being distributed substantially throughout the matrix material, as recited in claim 44, or methods of producing additive compositions in which the additive component is distributed substantially

Appln No. 09/939,527
Reply to Office Action of 09/25/2003

throughout the matrix material, as recited in claim 27. The entire purpose of Mitchell et al is directed to coated additives in which the coating material encapsulates the core of water soluble coolant additive. Such a coated object or particle is entirely different and distinct from the present coolant additive compositions comprising a matrix material and an additive component and methods of producing additive compositions in which the additive component is distributed substantially throughout the matrix material, as recited in independent claims 44 and 27.

In view of the above, applicant submits that claims 27 to 30, 44 and 45 are not anticipated by and are unobvious from and patentable over Mitchell et al under 35 U.S.C. 102(b) and 103(a).

With regard to independent claims 22 and 31, Mitchell et al does not disclose, teach or even suggest a partially soluble sustained released component effective to reduce the rate of release of the additive component into the coolant and including a soluble portion effective, when released into the coolant, to provide at least one benefit to the coolant, as expressly recited in these claims. To the contrary, Mitchell et al directly and expressly seeks to avoid the use of soluble coatings. Importantly, Mitchell et al does not even suggest any benefit to the coolant with the minor, soluble portion of the coating disclosed in this reference.

Mitchell et al discloses such soluble coating portion as being detrimental, for example, causing contamination and fouling to the cooling system which is being treated. In this regard, applicant again submits that Mitchell et al actually teaches away from present compositions as recited in claim 22 and the methods of making such compositions, as recited in independent claim 31. The Examiner has completely and improperly ignored the language in claims 22 and 31 that the soluble portion of the sustained release component is effective, when released into the coolant to provide

Appln No. 09/939,527
Reply to Office Action of 09/25/2003

at least one benefit to the coolant. Mitchell et al does not disclose or even suggest this advantageous feature of claims 22 and 31.

In view of the above, applicant submits that claims 22 and 24 to 31 are not anticipated by and are unobvious from and patentable over Mitchell et al under 35 U.S.C. 102(b) and 103(a).

Each of the present dependent claims is separately patentable over the prior art. For example, the prior art does not disclose, teach or even suggest any of the present compositions and methods including the additional feature or features recited in any of the present dependent claims. Therefore, applicant submits that each of the present claims is separately patentable over the prior art.

In conclusion, the Examiner has held that claims 1 to 21 are allowed. Applicant has shown that the remaining claims 22, 24 to 31, 44 and 45, are not anticipated and are unobvious from and patentable over the prior art under 35 U.S.C. 102 and 103. Therefore, applicant submits that all of the present claims are allowed or allowable and respectfully requests the Examiner to pass the above-identified application to issuance at an early date. Should any matters remain unresolved, the Examiner is requested to call (collect) applicant's attorney at the telephone number given below.

Respectfully submitted,



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